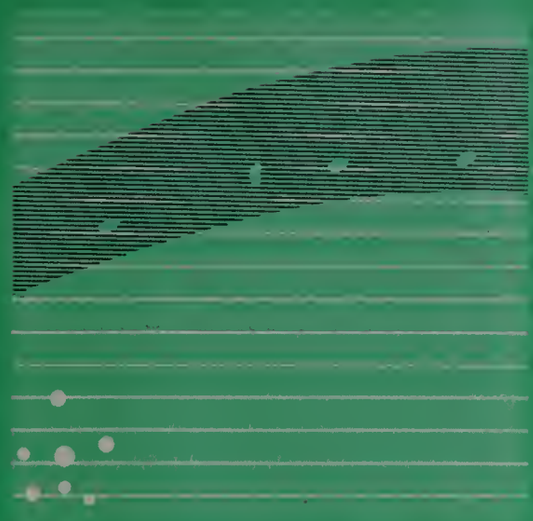
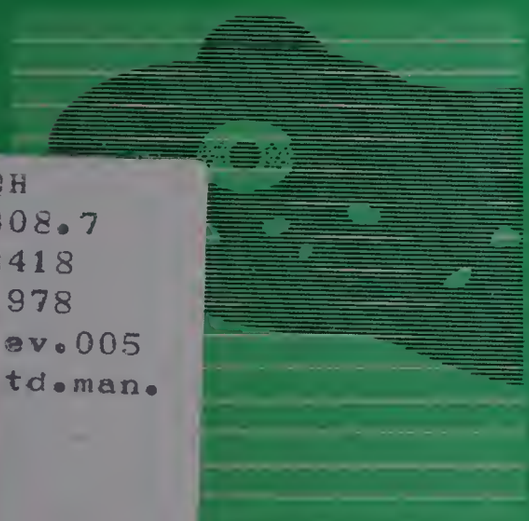
Communities




RAND McNALLY

SCIIS

name _____

Use the Everglades

How many kinds of organisms can you find? _____

Name at least two kinds. _____

_____

Which organisms are animals? _____

_____

Which are plants? _____

_____

How many different populations can you find? _____

Find organisms that make a food chain. Draw the food chain.

What are some of the organisms in the small birds' (eaglets') environment?

_____

_____

_____

What nonliving environmental factors can you find?

What abiotic environmental problems do the running deer have?

Do you see a possible biotic problem for the browsing deer?

The pine trees near the center of the picture are smaller and farther apart than those at the top left.
What environmental factor may have caused this?

For a pine tree, where is the optimum range for that factor?

What is the range of that factor for the pine trees?

For a fish, where is the optimum range for that factor?

These foods come from plants.
Name the plant or plants each food is made from.

FOOD	PLANT FROM WHICH FOOD IS MADE	PART OF PLANT
spaghetti		
rice pudding		
tossed salad		
grits		
sauerkraut		
cake		
catsup		
french fries		
cider		
chili con carne		

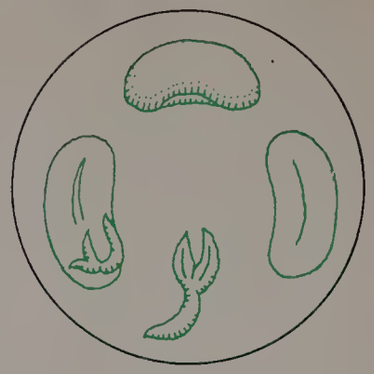
Add more foods to the list. Name the plants they are made from.

Draw or describe the seed parts you see.

What will each of these parts do for the growing plant?

Date planted _____

Label the seed parts shown in the picture.

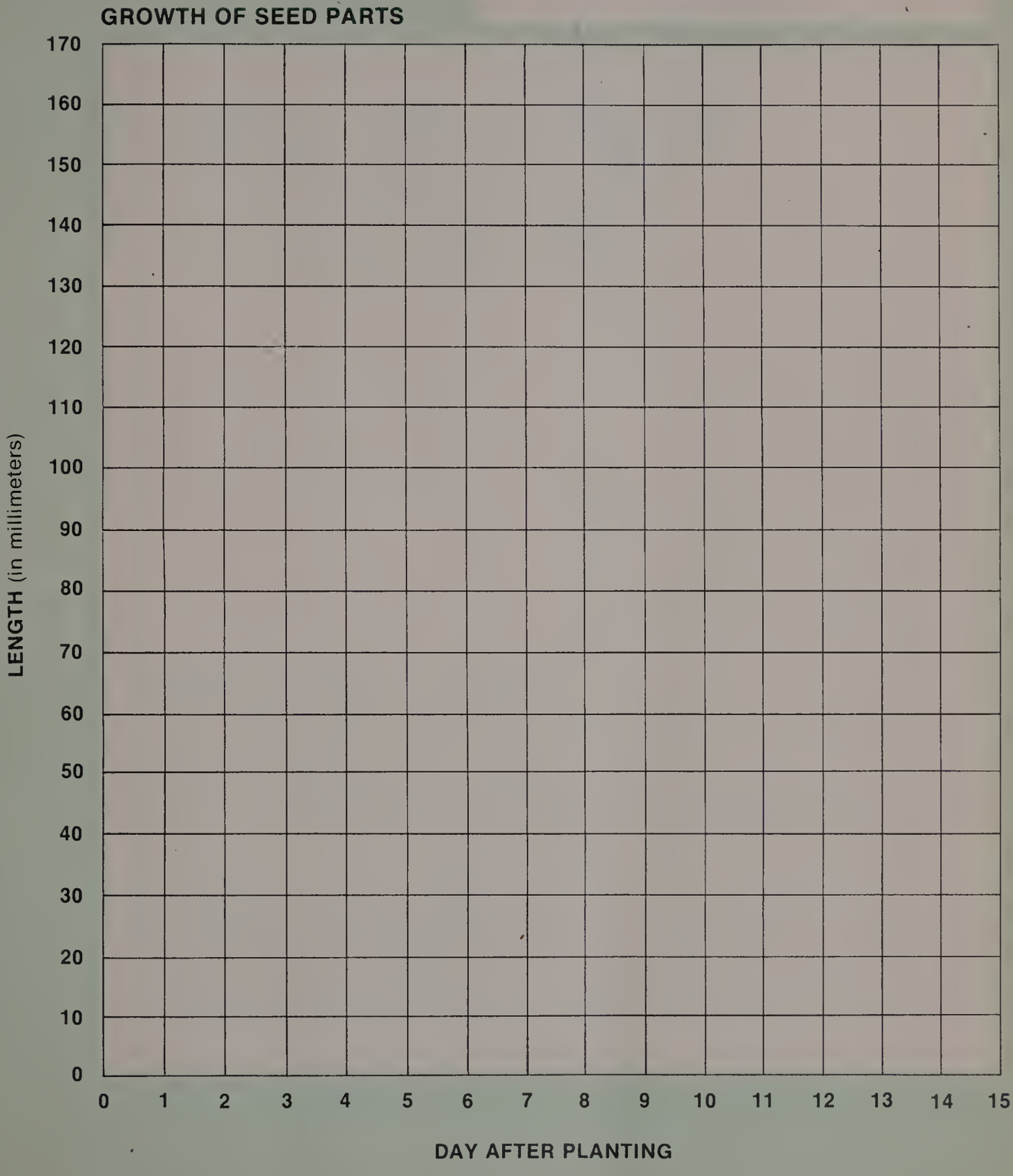


Record the length of each seed part on planting day. Do it again during your experiment.

DAY AFTER PLANTING	EMBRYO	COTYLEDON	EMBRYO WITH ONE COTYLEDON	WHOLE SEED Embryo with two cotyledons

Date planted _____

KEY:
- ◯ Embryo
- ◯ Cotyledon
- ◯ Embryo with one cotyledon
- ◯ Whole seed — Embryo with two cotyledons

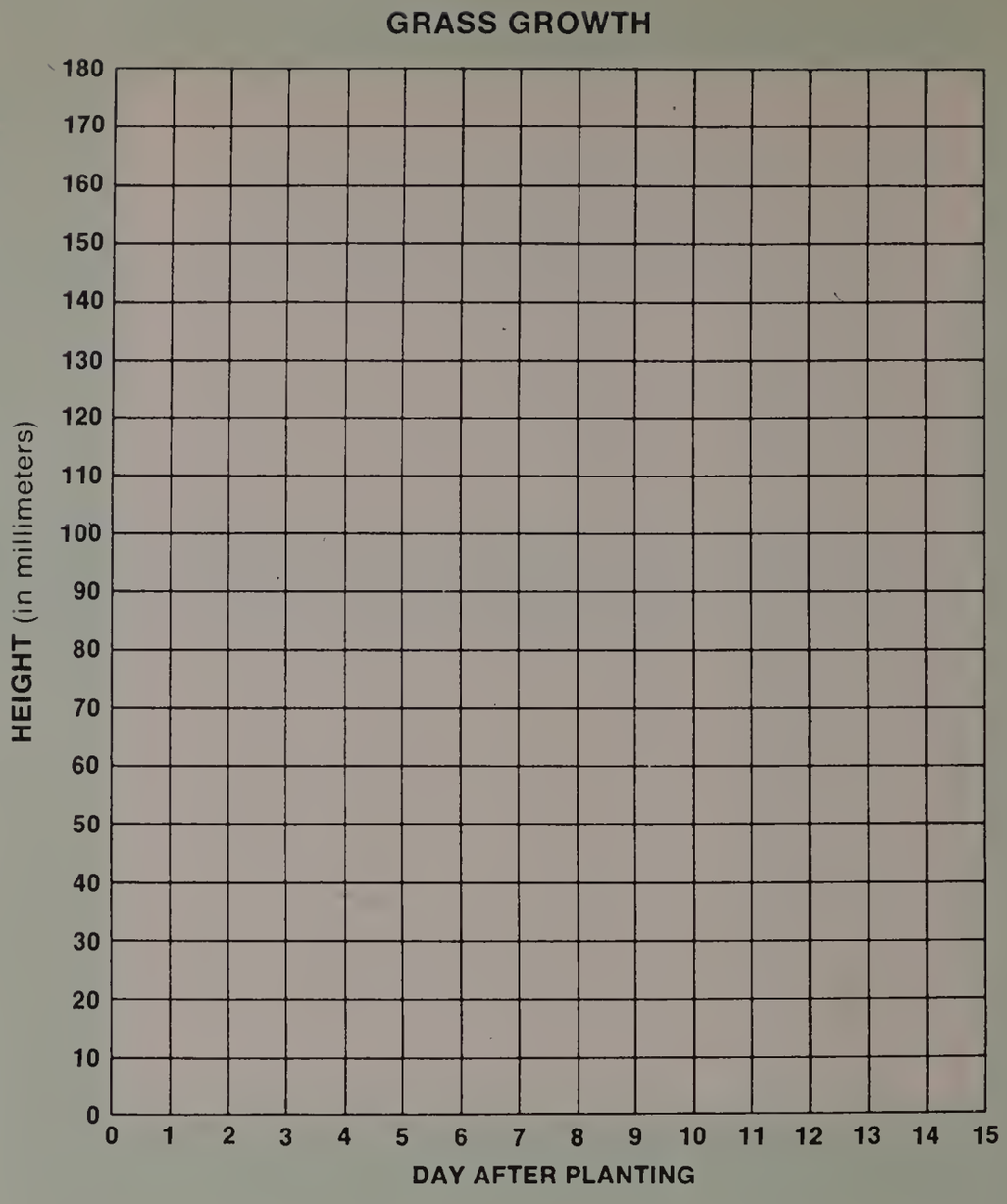


Date planted _____

KEY:

◯ Plants in dark

◯ Plants in light



How is grass grown in the dark different from grass grown in the light?

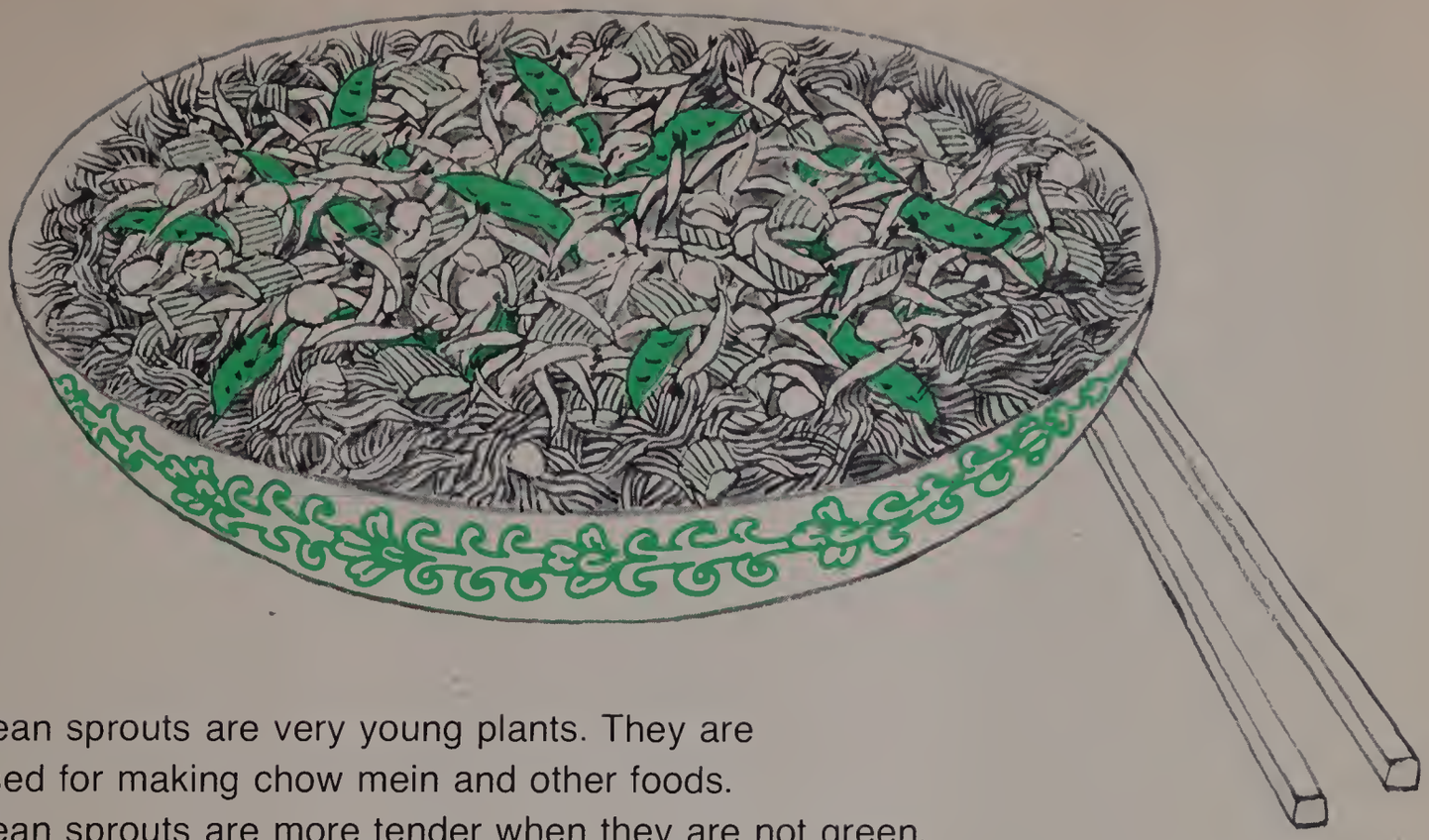
_____

What happened when you moved plants from the dark to the light?

_____

What happened when you moved plants from the light to the dark?

_____



Bean sprouts are very young plants. They are used for making chow mein and other foods. Bean sprouts are more tender when they are not green. How would you grow tender bean sprouts?

Bean sprouts are easier to clean if they are not grown in soil. How could you grow them without soil?

Where would they get the food they need for growth?

Predict what you think will happen when you keep –
a plant with cotyledons in the light,

a plant with cotyledons in the dark,

a plant without cotyledons in the light,

a plant without cotyledons in the dark.

Explain your reasons.

Record the heights of your team's plants.

	PLANTS IN LIGHT		PLANTS IN DARK	
DAY AFTER COTYLEDONS WERE REMOVED	WITH COTYLEDONS	WITHOUT COTYLEDONS	WITH COTYLEDONS	WITHOUT COTYLEDONS

What do you think cotyledons do for plants?

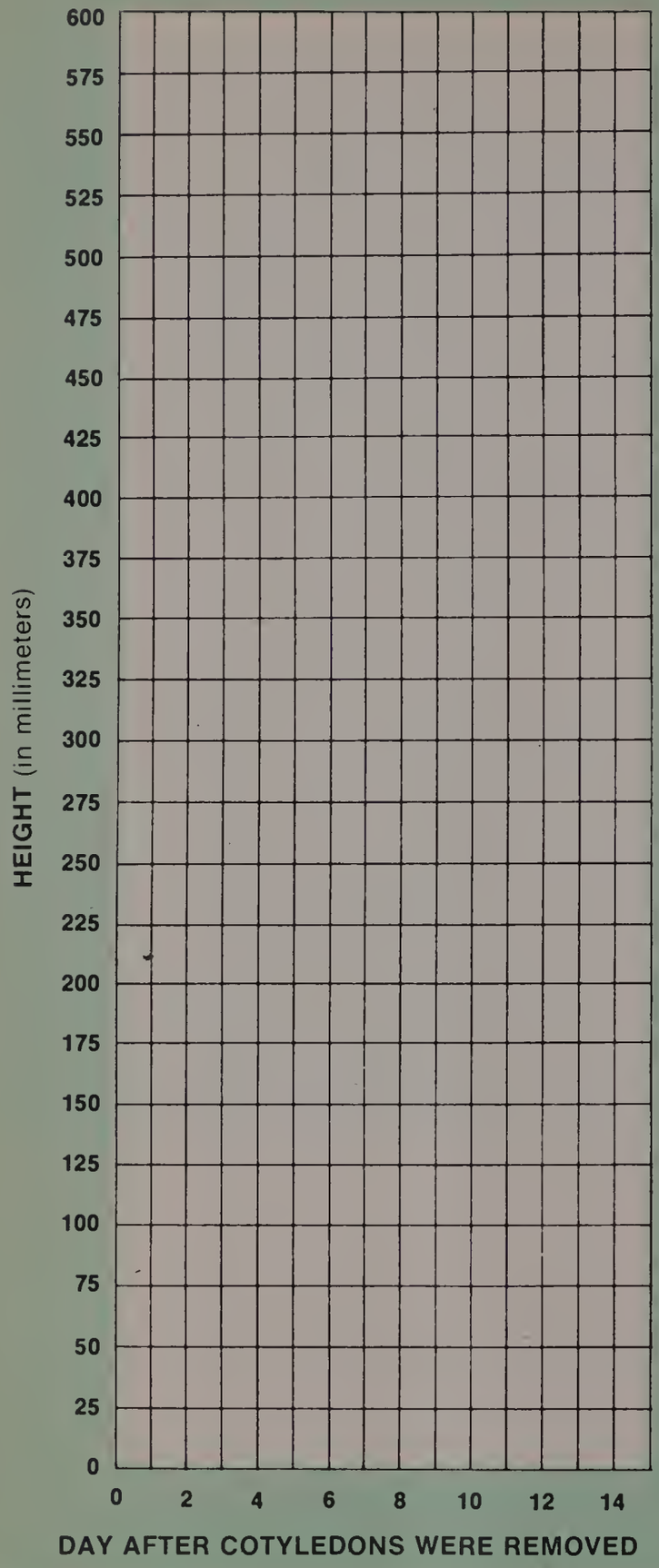
_____

_____

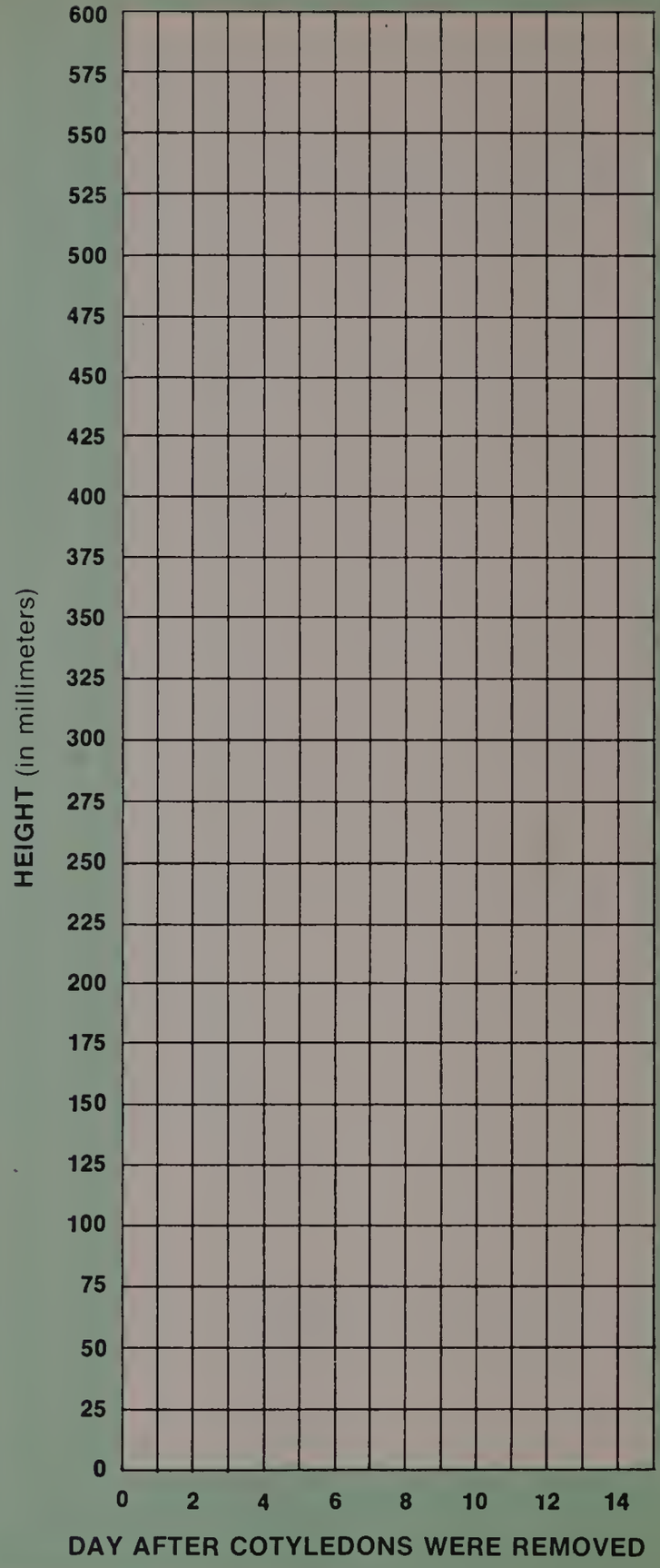
_____

_____

GROWTH IN THE LIGHT



GROWTH IN THE DARK



KEY: ◯ With cotyledons ◯ Without cotyledons

Some large and some small seeds were caught in an animal's fur.
The animal went into a dark, abandoned mine. Then the seeds fell out.
Plants began to grow in the moist mine.

Do you think the plants will survive? _____ Why? _____

_____

_____

_____

_____

Make a record of your team's terrarium.

Draw or write down the changes you observe.

Date you planted the beans _____

Record what happens to your bean plants –
during the first two weeks of growth,

_____

_____

_____

_____

during the third and fourth weeks of growth,

_____

_____

_____

_____

during the fifth and sixth weeks of growth,

_____

_____

_____

_____

during the seventh and eighth weeks of growth.

_____

_____

_____

_____

Record the results of your cricket food experiment.

KIND OF FOOD PROVIDED	AMOUNT OF FOOD PROVIDED	WAS THE FOOD EATEN?	WAS THE FOOD PART OF A PLANT OR PART OF AN ANIMAL?

What foods would you feed a population of crickets?
Use the class data to help you decide.

If the crickets used animals for food, where did those animals get their food?

Date you put crickets in the chamber _____

Number of crickets used _____

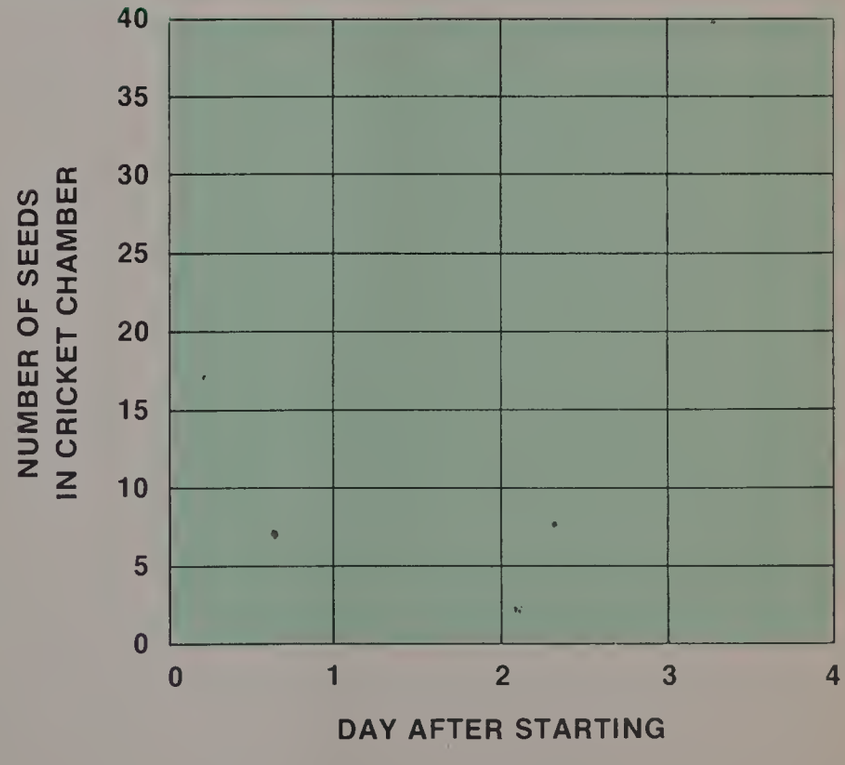
DAY AFTER STARTING	NUMBER OF SEEDS IN THE CHAMBER	NUMBER OF SEEDS EATEN

After the class has figured the average number of seeds one cricket eats in four days, record that number.

_____

Total Seeds Eaten _____

Graph the number of seeds in the cricket chamber each day. Draw a line connecting the points.



Think of some organisms that eat plants or plant products. List these organisms in the second column. In the first column, list the foods these organisms eat.

PLANT, PLANT PART, PLANT PRODUCT	PLANT EATER	

Record what the salamander eats.

Describe the salamander's behavior.

Date you put the salamander in the terrarium _____

How many crickets were in the terrarium then? _____

Record the number of crickets the salamander eats. _____

1st day _____ crickets

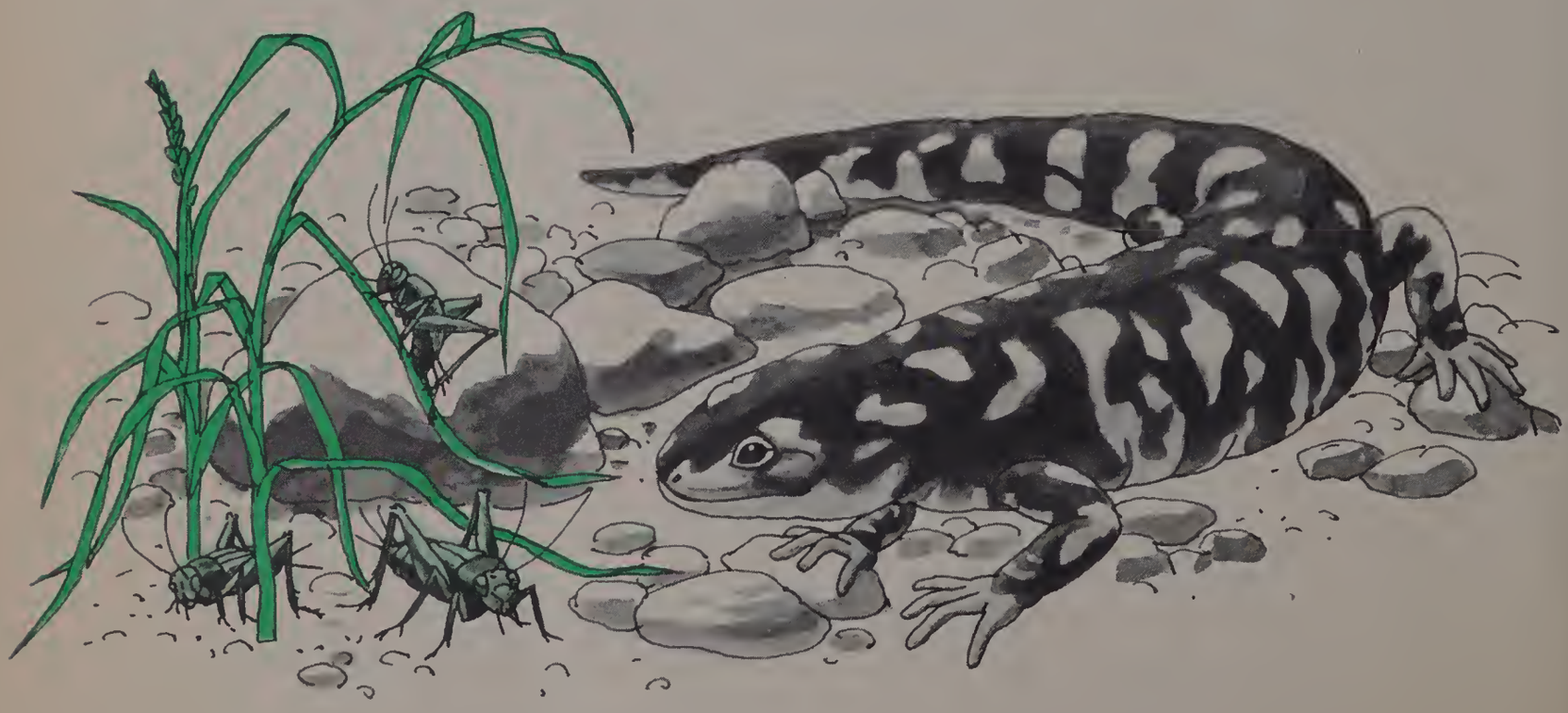
2nd day _____ crickets

3rd day _____ crickets

4th day _____ crickets

Total _____

After the class has figured the average number of crickets one salamander eats in four days, record that number _____



Draw arrows between the organisms.
Each arrow should point toward
the organism the food goes into.

From what organism did the salamander's food come? _____

From what organism did the cricket's food come? _____

If salamanders eat crickets, do salamanders eat food from plants? _____

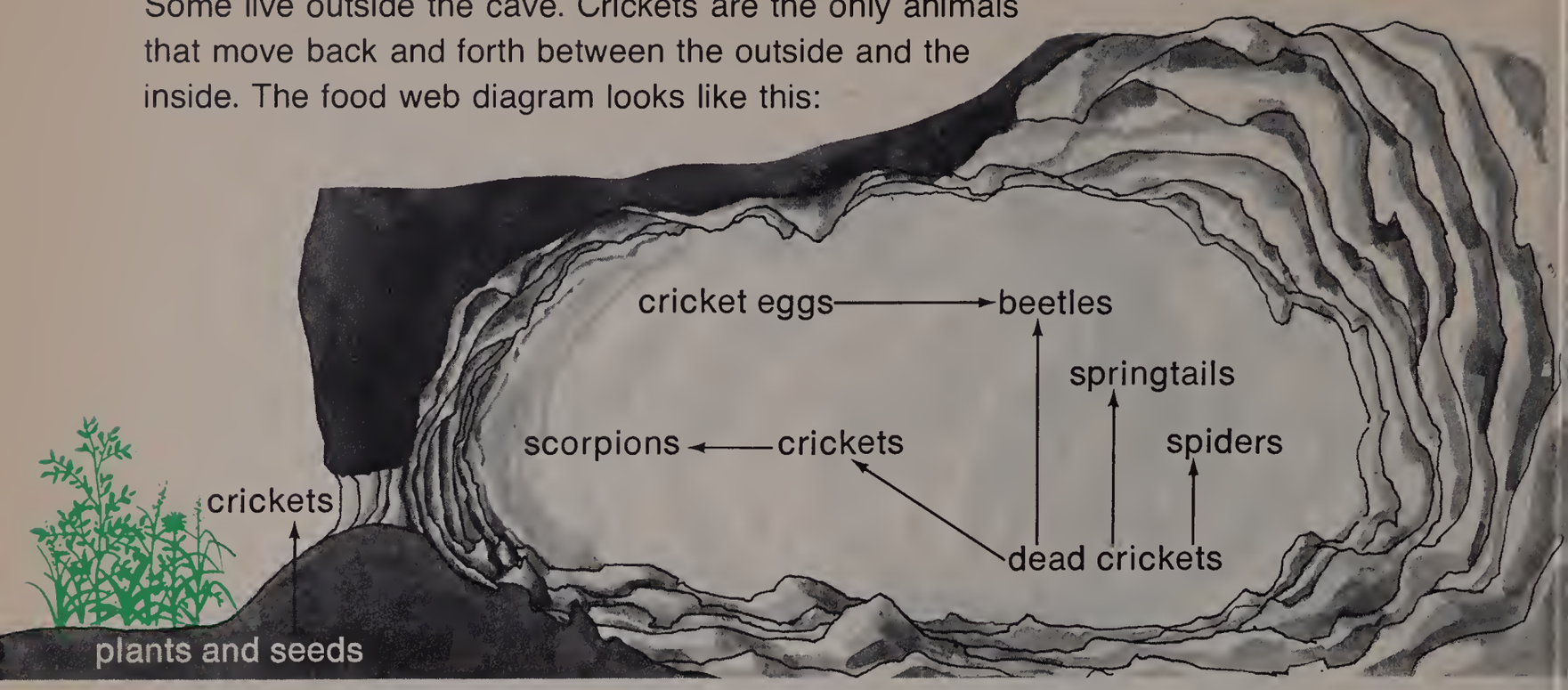
Explain. _____

_____

_____

_____

Many organisms live inside Cathedral Cave, Kentucky. Some live outside the cave. Crickets are the only animals that move back and forth between the outside and the inside. The food web diagram looks like this:



How can animals live in the cave all the time when there are no plants there to make food? _____

_____

_____

_____

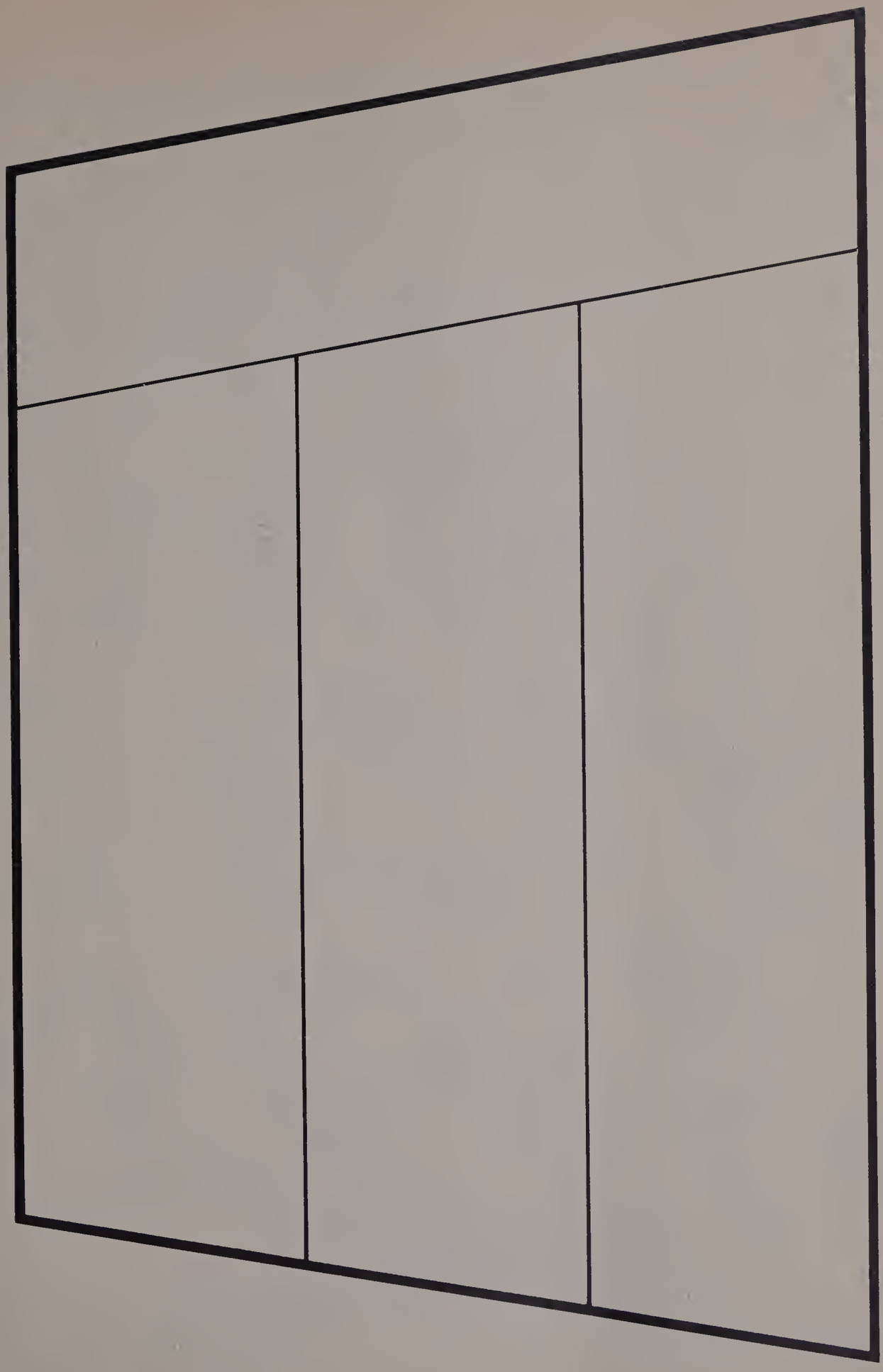
Beetles eat the dead crickets. Where did the materials in these crickets come from? _____

_____

Suppose the opening is closed and crickets cannot get in and out. What do you think would happen to each population in the cave? _____

_____

_____



A freeway has to be completed. Draw colored lines to show where you think it should be. What do you think will happen to the plants and animals as a result of building the freeway—

in the grasslands and farmlands? _____

in the city? _____

in the woods and park? _____

Date you prepared the burial vial _____

Organisms you placed in the vial

_____

_____

_____

Record your observations

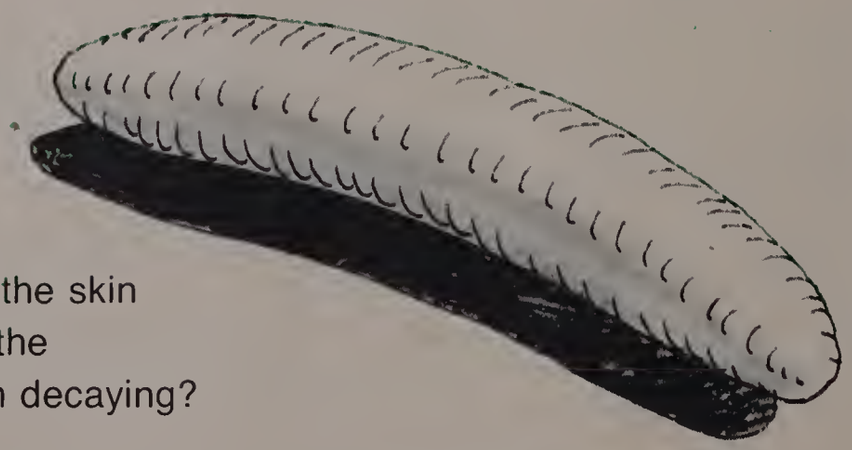
DATE	OBSERVATIONS

Two hikers crossed a desert. On the way they noticed a dead coyote. Two weeks later they got a surprise. They passed the body again and found it had not yet decayed.

Why do you think the coyote did not decay?

Date you placed bananas in the vials _____

DESCRIBE THE BANANA WITH YEAST	DATE	DESCRIBE THE BANANA WITHOUT YEAST



A boy peeled a banana and threw the skin away. Then he decided not to eat the banana. How could he keep it from decaying?

_____

_____

_____

_____

Four cats and three thousand mice live together
in a field. Each cat eats about ten mice a day.
Altogether the cats eat two thousand mice each year.
The mouse population stays at about three thousand.

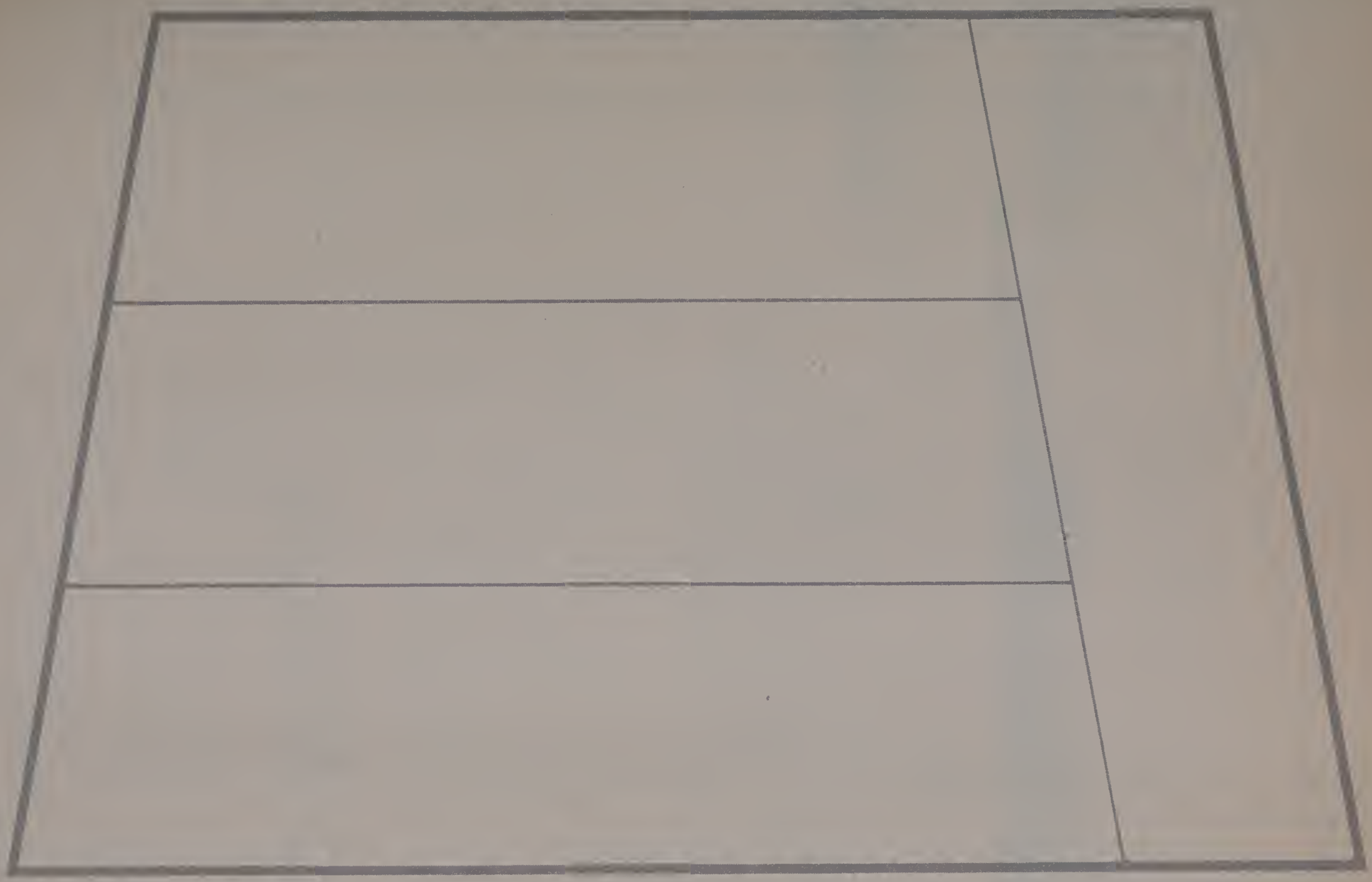
Explain how the mouse population is able to survive.

Six kittens are born. How do you think
this might affect the mouse population?

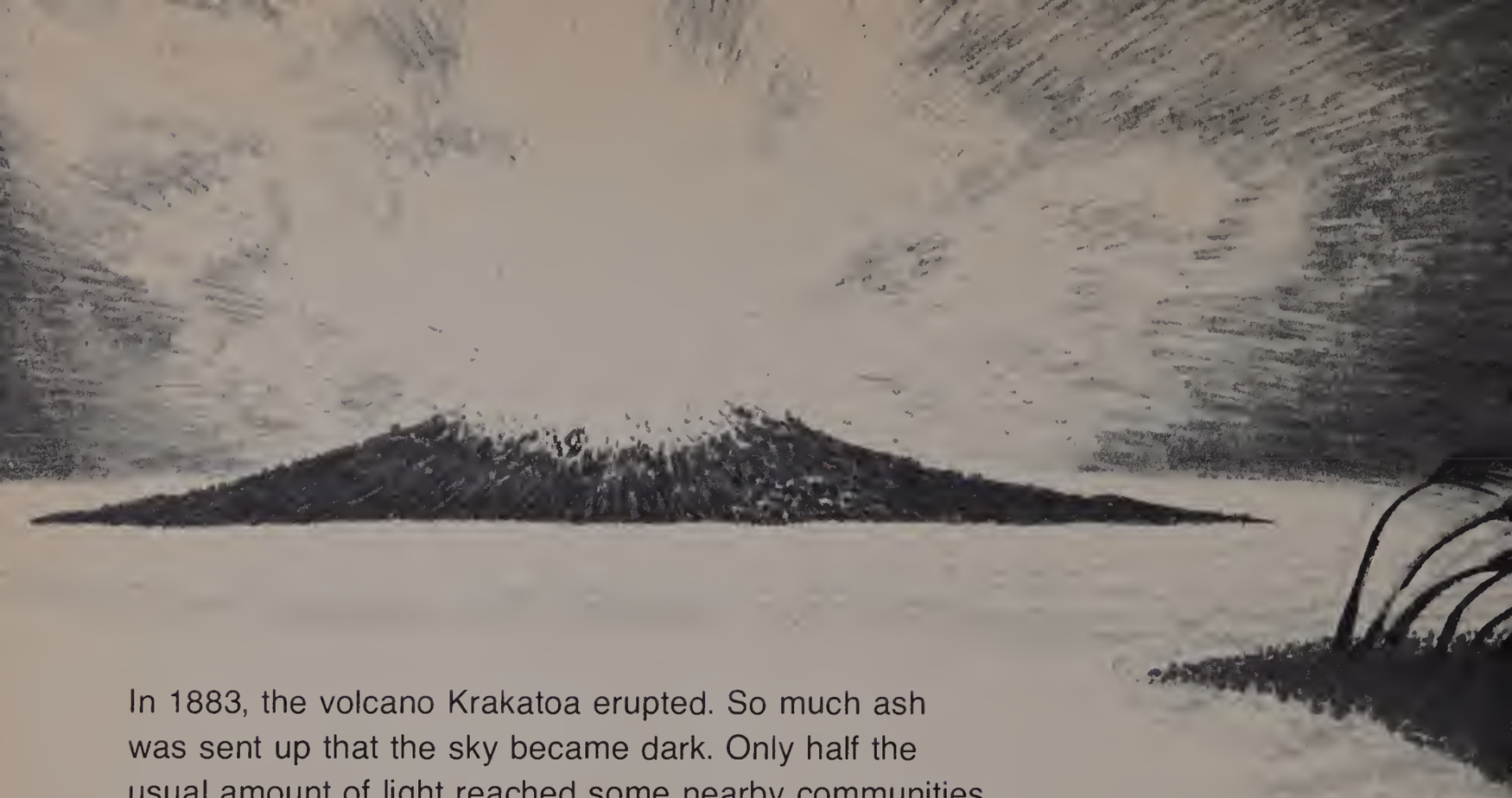
Could the increase in the cat population affect
the number of seeds on which the mice feed?

Why?

Record the organisms you observed on the field trip. If you did not see the organisms, give other evidence for their presence.



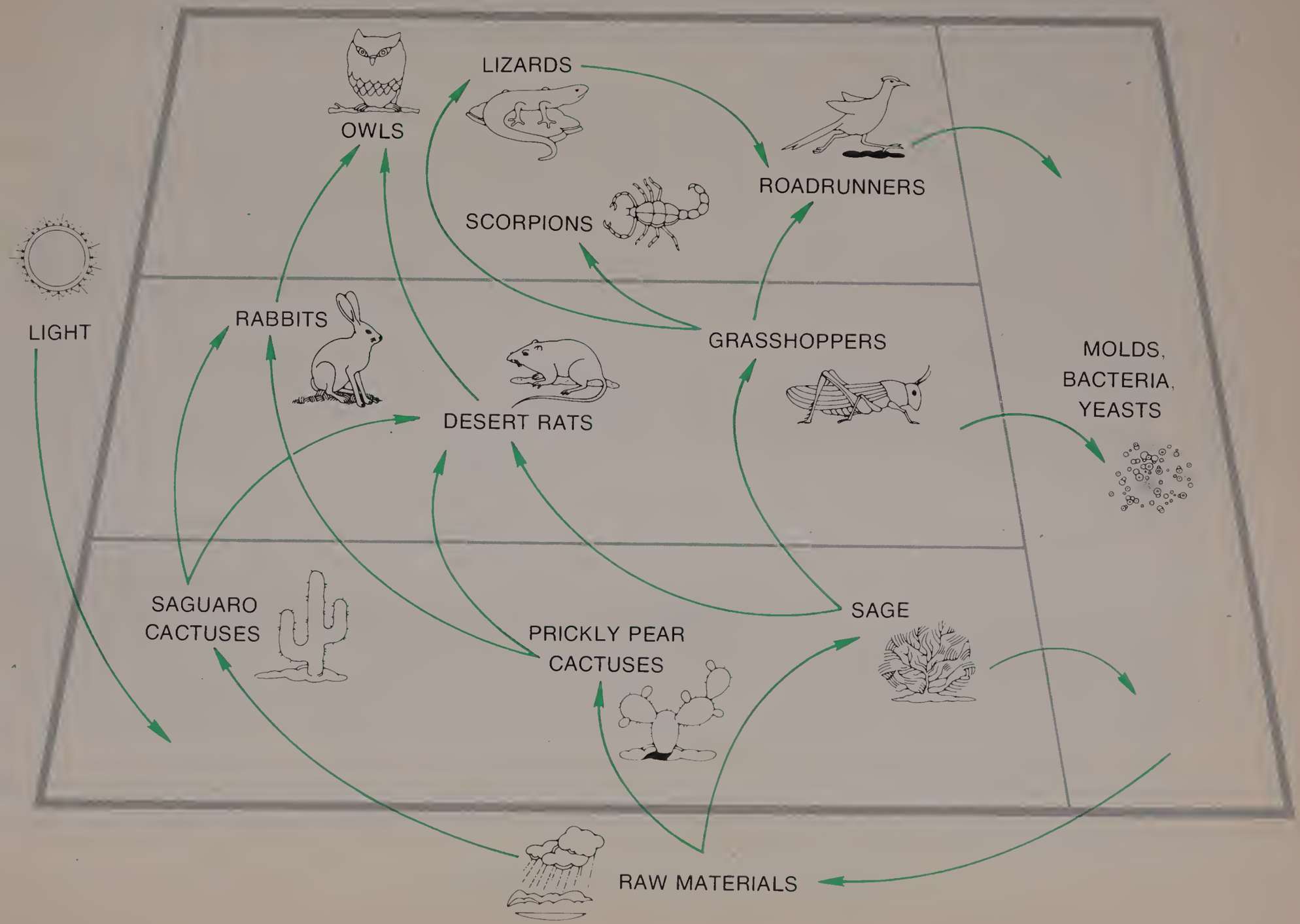
Using the organisms listed on page 30, make a chart showing the field trip community.



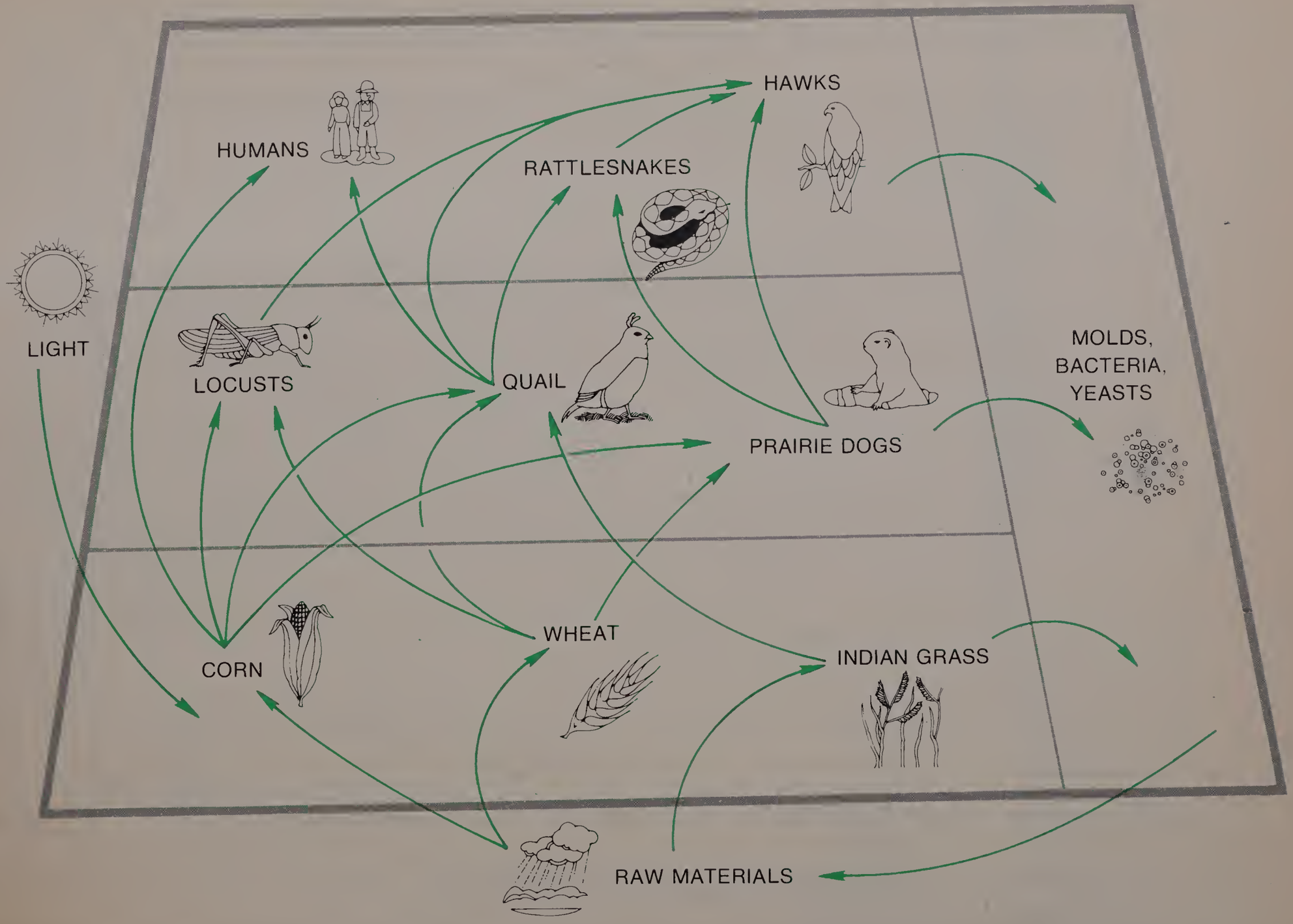
In 1883, the volcano Krakatoa erupted. So much ash was sent up that the sky became dark. Only half the usual amount of light reached some nearby communities. How do you think this decrease in light might have affected the populations of producers in those communities?

How do you think the decrease in light might have affected the consumers and decomposers?

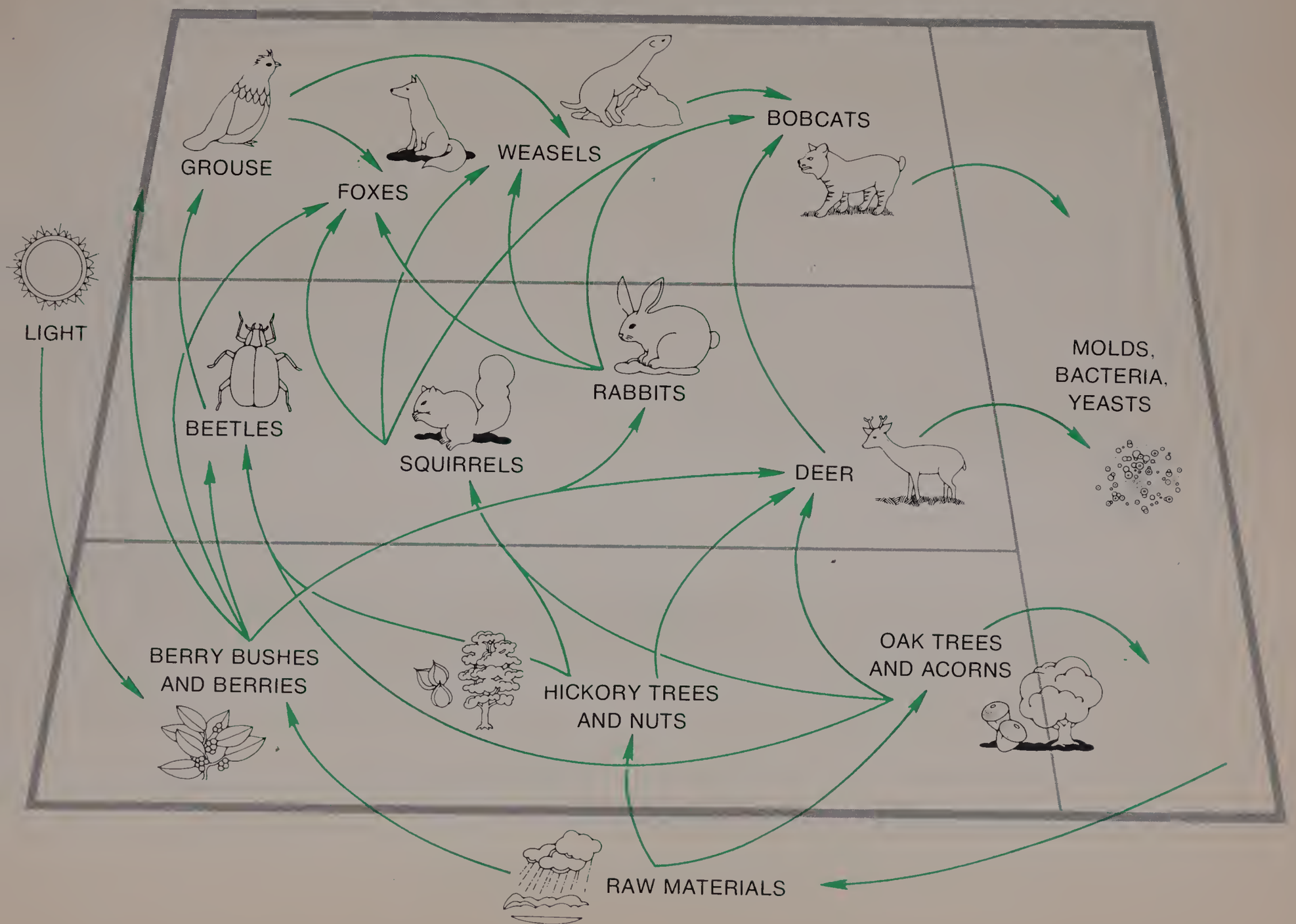
Desert Community



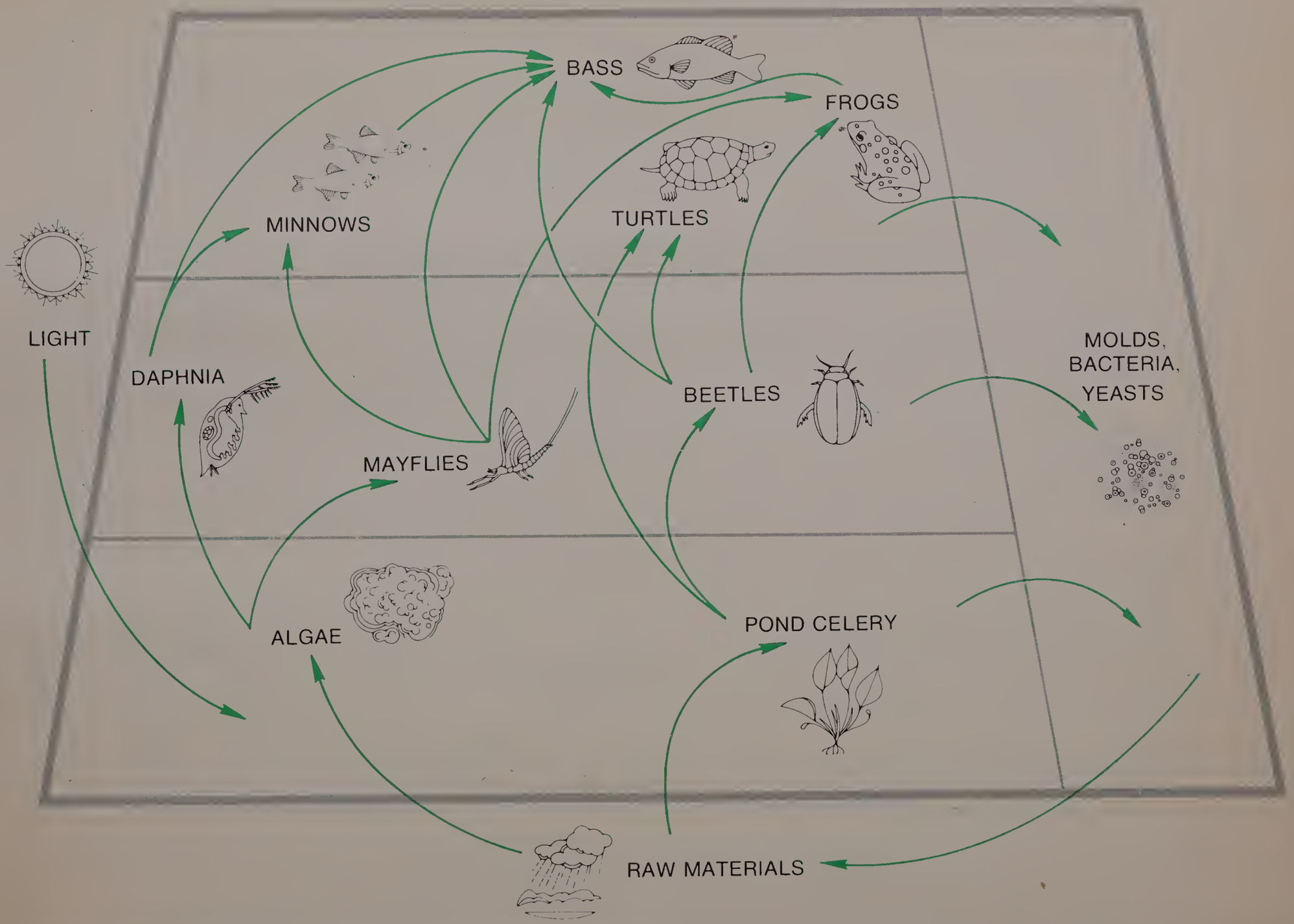
Prairie Community



Forest Community



Pond Community



A zoo keeper plans to add a forest section to a zoo. She will use the populations shown on page 35. She wants to use as few fences as possible. On the other hand, she does not want the animals to eat each other. How might she arrange the populations? Draw a diagram.

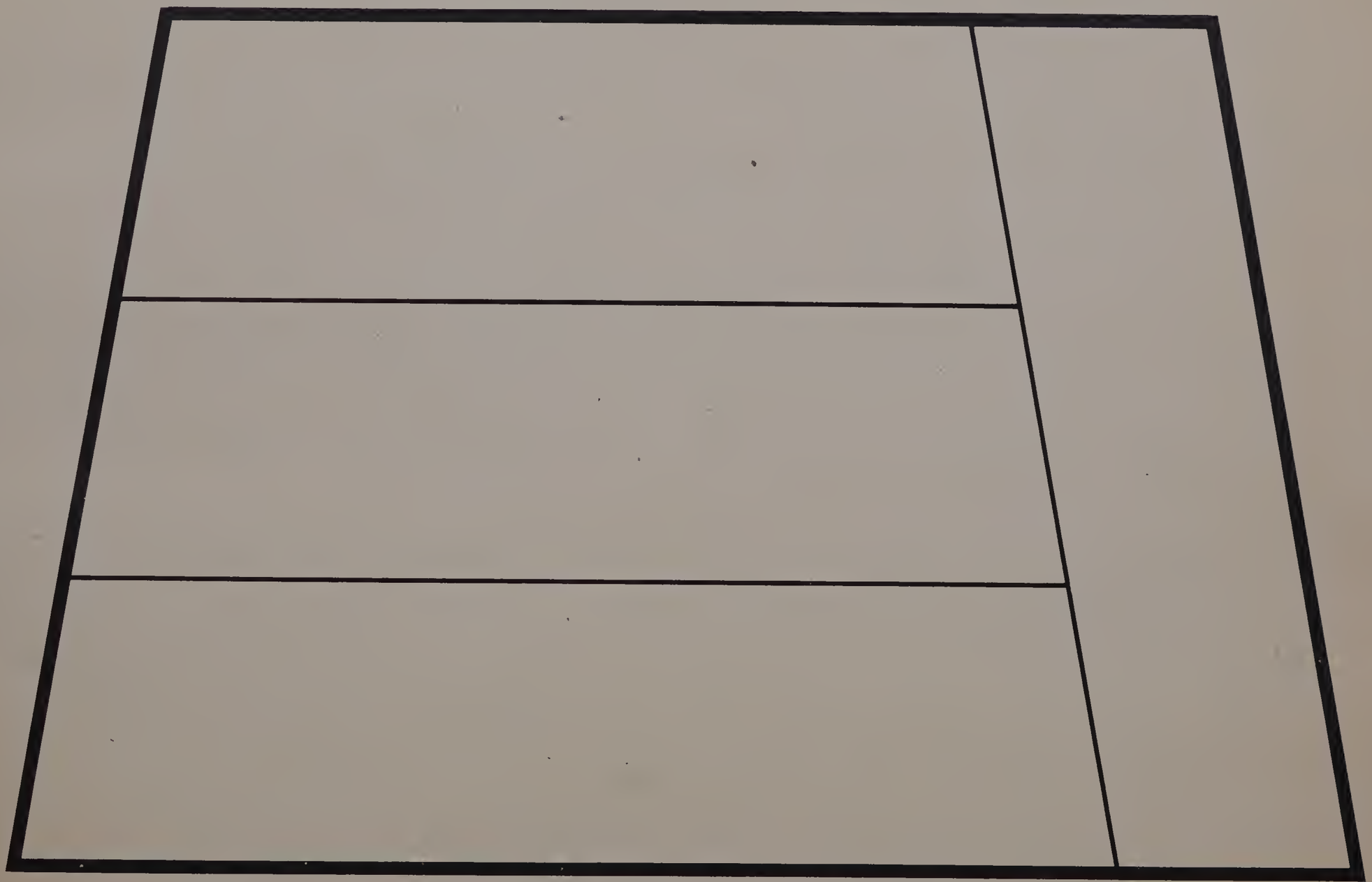
List the foods that you set out.

What animals ate the foods?

Humans now live in a world community. Americans eat oranges from California and beef from Kansas, and they drink coffee from Brazil. Add to this list of organisms used for food. Use organisms from as many different places as you can.

ORGANISM	FROM
Cattle	Kansas
Corn	Kansas
Coffee plant	Brazil
Orange trees	California

Use your list from page 39 to make a world-community diagram.
After each organism's name, write the name of its state or country.



RECOMMENDED FOR USE
IN ALBERTA SCHOOLS